

BAUG CIO

THE NEWSLETTER OF THE
BAY AREA ATARI USERS GROUP
OCTOBER 1982

FROM THE EDITOR

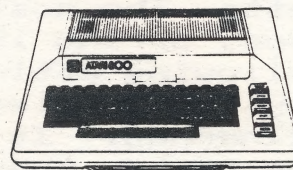
Well, finally all of you will be able to take a look at our new bylaws. The center section of this newsletter has been laid out to be removable, so if you are not in the habit of keeping this valuable publication, it will still be easy to file the rules governing our body for future reference. Please, read them if you get a chance, and remember that any item can be changed by popular vote, if it does not find common approval.

My column on Forth had to experience one month's interruption, since both space and time are limited this month. But I promise, it will continue in November.

One item of greater importance is our upcoming election of new officers. We are seeking nominations for President, Vice President, Editor, Tape Librarian, and a Director of Programs (in charge of attracting and engaging speakers for our meetings). We also need a new SYSOP for the TABBS BBS started by Andy and Dave. This service has great potential for the club, and we should make an effort to maintain our commitment to this project. Volunteers are urgently needed, and should contact our Member At Large, John Crane during the next meeting. I regret to mention in the same vein that this will positively be my last column as the editor. My decision has little to do with either club or office, but is caused by changes in circumstance in my professional life.

As usual, our next meeting is scheduled on Monday, October 4th, in the DYSAN cafeteria. The location and time of the midmonth meeting will be announced at that time. If for any reason you are unable to attend, call John Crane (408-268-7317), Dave Flory (408-226-9373), or me.
Happy computing...

Harald E. Striepe



C I O BAY AREA ATARI USERS GROUP NEWSLETTER

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EDITORIAL OFFICES:

BAUG CIO
100 DAK RIM WAY, #2
LOS GATOS, CA 95030

PHONE: <408> 356-3921

All articles are written and donated by members. Opinions expressed in this publication are those of the individual author, and do not necessarily represent or reflect the opinions of the group as a whole or any other commercial or non-commercial organization.

Deadline

Newsletter submissions must be in by the third Tuesday of each month. If material submitted is not of a time dated nature, it may not be published immediately. Publication decisions are at the discretion of the Editorial Staff.

Please submit articles camera ready, typed or printed in 3 1/2 inch columns, or as ATASCII/ASCII file on cassette or tape (media returned, if SASE is included). Articles may also be uploaded to T.A.B.B.S. after requesting password from SYSOP. Please, leave message including filename for the editor. Mail hard copy to the EDITOR, BAUG CIO

Subscriptions (which include Group membership) are \$12 per year. Persons, who sign up after June 30, will be charged \$6. Single back issues, when available, are \$1 each.

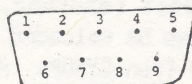
ANALOG INPUT VIA JOYSTICK PORTS

One of the numerous newsletters and journals that I read is called "Hands On!" and is published 3 times a year by the Technology Center of the Technical Research Centers in Cambridge Massachusetts. The most recent issue, Spring 1982, had the following article of interest by Ken Williams and Michael McInerney. It is a description of how they utilized the game ports to make an MBI spectrometer:

"The Atari paddle and joystick port has nine pins. Numbering from the top left, as in Figure 1, pins 1-4 respond to the joystick, pins 5 and 9 correspond to two paddle inputs, and pins 7 and 8 are the +5V and ground, respectively. You will notice that the +5V and ground are very close to one another; loss of the current program will result if they are inadvertently connected.

The Atari paddle control itself is a simple potentiometer which is connected across the +5V and one of the paddle inputs. A range of the potentiometer between 0 and about 1M ohm produces a variation of between 0 and 228 in the value of the ATARI-BASIC PADDLE function. It is also possible to connect paddle pins 5 and 9 to the ends of the potentiometer and pin 7 to the center tap. In this way a wider variation of values can be achieved by reading a combination of paddle functions on the same jack. For example, PADDLE(0) - PADDLE(1) gives a number in the range -228 to +228.

The computer 'reads' the potentiometer resistance by incorporating it into a simple RC circuit. The timer, located in an Atari chip, oscillates with a frequency dependent upon the resistance; this frequency is stored by the paddle function. As far as the simple interfacier is concerned, the chip discharges the capacitor every cycle, which is the most important feature. This varying voltage may cause difficulties if anything other than a resistance is placed in the circuit.



- | | |
|-----------------------------|--------------------------|
| 1. (Joystick) Forward Input | 6. Trigger Input |
| 2. (Joystick) Back Input | 7. +5 volts |
| 3. (Joystick) Left Input | 8. Ground |
| 4. (Joystick) Right Input | 9. A Potentiometer Input |
| 5. B Potentiometer Input | |

Fig. 1. Atari paddle-port pin map

Thus, it is relatively simple to interface a large resistance, or anything that may be made to resemble a large resistance (e.g., phototransistor), to the Atari through its game paddle ports.

The Atari 800 has a total of eight PADDLE functions, distributed among the four paddle-port jacks. Thus, it is possible to monitor up to eight different transducers simultaneously and, if necessary, correlate these with an internal timer.

In this initial experiment, we decided to use a prism spectrometer to test this capability. We used a rather ordinary spectrometer, of a kind commonly found in the physics departments of most universities. We attached a 1M ohm potentiometer to the arms of the spectrometer to allow for reading the angle of refraction of a spectral line with respect to the light source. We also mounted a phototransistor next to the eyepiece in order to read light intensities of various spectral lines. The potentiometer and phototransistor data are read by separate paddle ports and correlated with software. It should be noted at this point that the phototransistor, in this case an FPT-100, acts as a resistance, so that it can be read in a way similar to the potentiometer.

The FPT-100 silicon phototransistor has an emitter-collector current dependent on the intensity of light - the higher the intensity, the higher the current. The transistor also has a very rapid response time. Initially, we tried connecting the emitter and collector across pins 5 and 7 in the same manner as the potentiometer.

The software associated with the prism spectrometer is as yet rather simple. The only real problem we have had so far with the software is the time it takes to gather data. BASIC is notoriously slow at gathering data and samples the ports every few milliseconds. We hope that in the future, this portion of the program will be written in machine language.

We have found it relatively easy to input data into the Atari by use of the paddle ports. The first version of our spectrometer demonstrates how much can be done with these ports. Our spectrometer, crude though it is at the moment, shows great promise. Anyone who is interested in finding out more about this proposal as it progresses is invited to write to the authors."

Mr. Williams and McInerney both teach at Eastern University in Illinois.

Clyde Spencer

BAY AREA ATARI USERS GROUP
GROUP BYLAWS - PAGE 1

ARTICLE I - NAME

Section I

The name of the Group shall be the Bay Area Atari Users Group; hereinafter referred to as the Group.

ARTICLE II - PURPOSE

Section I

The purposes for this group are to:

1. Promote comraderie between fellow Atari computer owners and users.
2. Provide a vehicle for the dissemination of information regarding Atari computers specifically, and small computers in general.
3. Provide a forum for discussion on all aspects of small computer technology.
4. Provide the oportunity to make quantity hardware and software purchases which reduce costs to members.
5. Make helpful and constructive suggestions regarding all aspects of small computer business activities.
6. Provide access to Public Domain Software written for Atari computers.
7. Provide informal educational assistance to anyone interested in Atari computers in particular or small computers in general.

ARTICLE III - MEMBERSHIP

Section I

Any Private individual is eligible for membership. Membership shall be by written application submitted to any Group Officer or Trustee.

Section II

No business or group shall qualify as a Group member. Persons within such businesses or groups may become members only on an individual basis.

Section III

Membership shall continue until:

1. Termination is requested by the member.
2. Termination is requested by the Trustees.
3. Termination is requested by a majority of the Group.

Section IV

Each member shall be entitled to:

1. Access to any document in the Documentation Library.

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2. Access to, and when appropriate, duplication privileges of any program in the Software Library.
3. Participation in any Group sponsored activity, such as bulk Purchases, Social Activities, etc.
4. Candidacy for any Group office as provided in the by-laws.

ARTICLE IV - DUES

Section I

There shall not be any charge (dues) for membership in the Bay Area Atari Users Group.

Section II

The Group may charge individuals separately for goods and/or services provided by the Group, such as:

1. Newsletter subscriptions.
2. Documentation services and/or copies of documents.
3. Software services and/or duplication of software.
4. Hardware services and/or modifications to users equipment.
5. Social activities.

ARTICLE V - OFFICERS AND TRUSTEES

Section I

Group officers shall be: President, Vice-president, Secretary, Treasurer, Agenda Chairperson, Software Librarian, Documentation Librarian, and Newsletter Editor.

Section II

Trustees of the Group shall be:

1. The Group founders (in perpetuity):
John Crane
Clyde Spencer
2. The following executive officers:
President
Vice-president
3. Any meeting of the Trustees may include up to two members at large who hold no other office and shall vote on an equal basis with the Trustees.
4. Members at large shall be selected from volunteers at any regular meeting. Every effort shall be made to use all volunteers equitably.

Section III

The officers shall be elected at the December Business Meeting for a term of one year, beginning in January of the year following election, by

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secret ballot of the members present. An officer resigning during his or her term shall be replaced at a special election.

Section IV

If a Group Founder needs replacement, a surrogate shall be appointed by the remaining Group Founder. If there is no remaining Group Founder, two new surrogates shall be elected at a special election, by ballot, from among the membership at large.

Section V

A majority vote of the Trustees shall be required to censure any officer or Group member.

Section VI

Except as stipulated in ARTICLE V, Section II above, any member is eligible to hold any office.

Section VII

When voting for the election of officers, a quorum shall be defined as those members present at the time of the vote. No election shall take place without at least 30 days written notice to the members at large. Proxy votes and absentee ballots submitted in writing prior to the election shall be accepted to constitute a quorum. Officers shall be nominated at the November meeting and published in the December Newsletter. Write-in candidates and nominations on the day of the election are also acceptable.

ARTICLE VI - DUTIES OF OFFICERS

Section I

The Trustees shall meet at the following times:

1. At least once per year.
2. Whenever it is so decided by a majority of the Trustees.
3. Within 30 days of a request made by the Members At Large.

Section II

The Trustees shall oversee all functions of the Group and assist the Group in forming Group policy in matters of:

1. General Group activities.
2. Group purchases.
3. Group announcements and publications.
4. Revisions of the By-Laws.
5. Newsletter activities.
6. Software acceptance and disbursement.
7. Documentation acceptance and disbursement.
8. Activities with other User Groups or clubs.

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9. Officer replacement/sensure for due cause (i.e. conflict of interest, derelection of duties, misconduct, etc.)

Section III

The President shall preside at all meetings of the Group and meetings of the Trustees. He shall also conduct same according to the Group rules adopted. He shall enforce the by-laws, decide all questions of order, see that the appropriate person signs all official documents, actively inform all Group Officers and Trustees regarding Group activities and business, and perform all customary duties pertaining to the Presidency.

Section IV

The Vice-president shall assume all duties of the President in the absence of the latter. He shall assist the President in all Presidential duties. The Vice-president shall provide an archive copy of the Document and Software Libraries so that the loss of either is not likely. He shall provide an index listing the contents of each to the respective Group Librarian on a quarterly basis.

Section V

The Secretary shall keep a record of all meetings, keep a roll of members, submit applications for membership, carry on all correspondence of non-technical matters, and notify members of regular meeting through an entry in the Newsletter.

Section VI

The Treasurer shall receive and disburse all monies paid to or by the Group, and shall provide an accurate accounting. He or She shall pay no bills without authorization by countersignature of the President or Vice-president. He or She shall publish a quarterly financial report in the Group newsletter and be prepared to give a financial summary at all meetings.

Section VII

The Agenda Chairperson shall be responsible for the agenda executed at each Group meeting. The general topics shall be decided by the Group at large and the Agenda Chairperson shall be responsible for obtaining the necessary speakers, and/or equipment as required. The Agenda Chairperson shall also make arrangements for a suitable meeting site for all regular Group meetings.

Section VIII

The Document Librarian shall maintain copies of all written or printed documents obtained by the Group and make same available at each meeting and otherwise as he/she is able. The Document Librarian shall cooperate with the Vice-president regarding the keeping of Archive copies of all Group Documents. The Document Librarian may enlist the assistance of any person in the execution of his/her duties. The primary responsibility for the

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Document Library remains with the elected Document Librarian.

Section IX

The Software Librarian shall maintain copies of all computer software obtained by the Group and make same available at each meeting and otherwise as he/she is able. The Software Librarian shall cooperate with the Vice-President regarding the keeping of Archive copies of all Group Software. The Software Librarian may enlist the assistance of any person in the execution of his/her duties. The primary responsibility for the Software Library remains with the elected Software Librarian.

Section X

No software shall be made available to the Group unless:

1. It is in the Public Domain or permission to distribute without charge is given by the owner(s) of said software.
2. The recipients comply with all restrictions and/or conditions placed on distribution and/or reproduction by the owner(s).

Section XI

It shall be the responsibility of the Software Librarian to enforce Group Policy regarding software. In the event that proprietary software is accidentally provided, it will be the responsibility of the Software Librarian to:

1. See to it that the Group Secretary informs the recipients of said software that the software is proprietary and should be destroyed, and notifies the legal owner(s) that the software was released.
2. Remove all copies from the Group Library.

Section XII

The Software Librarian will provide a current list of available software which is in the Group's Library.

Section XIII

The Software Librarian shall notify Atari, Inc. of any software obtained by the Group that is suspected of being owned by Atari, Inc. Upon written permission by Atari, Inc. this software may be placed in the Software Library.

Section XIV

The Software Librarian will make copies of the Software Library available to:

1. Persons attending regular meetings.
2. Other users groups or clubs.
3. Educational institutions.
4. Retail stores selling Atari computers and/or software.

5. Other persons or agencies as decided by the Trustees.

Section XV

The Newsletter Editor will be responsible for soliciting articles of general or special interest for monthly publication in the Newsletter. Also for obtaining financing for the Newsletter. The Newsletter Editor will be solely responsible for bringing the Newsletter to press and shall have the power to solicit assistance from any person in the performance of these duties. The Editor will see to it that one copy of the Newsletter is placed into the Document Archives.

Section XVI

When an officers term is complete, all Group property in the possession of said officer shall be promptly surrendered to the Trustees.

ARTICLE VII - COMMITTEES

Section I

Committees may be formed and dissolved by the Trustees as needed.

Section II

Committee chairpersons are responsible directly to the Group Trustees.

ARTICLE VIII - MEETINGS

Section I

The principal Group meeting shall normally be held on the first Monday of each calendar month.

Section II

There may be an additional meeting for the execution of Group business held approximately 15 days after the principal meeting.

Section III

Meeting dates and intervals may be changed at any meeting by a simple vote of the members present. Time shall be allowed for meeting date announcements to be received by the members in a regular mailing prior to any special meeting.

ARTICLE IX - AMMENDMENTS

Section I

The By-laws may be amended by a majority vote of the members present at any properly scheduled meeting.

Section II

Proposed By-laws changes will be submitted to the Group Trustees. The

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Group Trustees will publish them for consideration by the general membership as outlined in Section III and IV.

Section III

Proposals for amendment shall be submitted to the General Membership in writing at least 30 days prior to voting.

Section IV

The amendment mailing shall consist of the following:

1. The amended By-laws paragraph(s) exactly as it will read after the amendment is approved.
2. Discussion of amendment - background and facts.
3. Arguments prepared by knowledgeable members from the Pro and Con aspect of the amendment.

ARTICLE X - RULES

Section I

During Business Meetings the President shall determine all matters of Group order subject to the censure of the Trustees.

Section II

During formal Business Meetings, Roberts Rules of Order shall prevail.



It will never replace the human brain, Stanley until we find a way to make it worry."

PRINTER CONTROL CHARACTER COMPARISON CHART

| KEYING SEQUENCE | | | | PRINTER FUNCTION |
|--------------------|-------------------|----------------|------------------|---|
| ATARI 825 | NEC PC-8023 | EPSON MX-80 | MICROLINE 82A | |
| CTRL H | CTRL H | | | Backspace, must be followed by char defining number of dot spaces. |
| | CTRL M or sw | ESC ESC CTRL Q | CTRL Q | Select printer. |
| CTRL J | CTRL J | CTRL J | CTRL J | Forward line feed. |
| CTRL M | CTRL M | CTRL M | CTRL M | Carriage return. |
| CTRL O | ESC ESC X | | | Start underlining. |
| CTRL N | ESC ESC Y | | | Stop underlining. |
| ESC ESC ESC J | ESC ESC r x | | | Reverse line feed. |
| ESC ESC ESC N | CTRL N | CTRL N | ESC ESC CTRL → | Start elongated printing. |
| ESC ESC ESC O | CTRL O | CTRL T | | Stop elongated printing. |
| ESC ESC ESC Q | ESC ESC P | | | Select proportional characters. |
| ESC ESC ESC S | ESC ESC N | | ESC ESC CTRL ← | Select 10 cpi characters. |
| | ESC ESC E | | | Select 12 cpi characters. |
| ESC ESC ESC T | ESC ESC Q | CTRL O | ESC ESC CTRL ↓ | Select 16.7 cpi characters. |
| ESC ESC ESC CTRL ↑ | | | | Feed half line forward. |
| ESC ESC ESC CTRL ← | | | | Feed half line reverse. |
| | ESC ESC N | ESC ESC CTRL R | | Turn off compressed. |
| | ESC ESC N | ESC ESC CTRL X | | Reset elongated & compressed to normal width. |
| | ESC ESC ! | CTRL E | | Turn on emphasized mode. |
| | ESC ESC " | CTRL F | | Turn off emphasized mode. |
| | | CTRL G | | Turn on double strike mode. |
| | | CTRL H | | Turn off double strike mode. |
| | ESC ESC CTRL N | | | Print enlarged characters. |
| | ESC ESC CTRL O | | | Turn off enlarged characters. |
| | ESC ESC (| CTRL D | | Set horizontal tabs, must be followed by; "#,#,..." whr # = DEC col |
| | ESC ESC 2 | ESC ESC D0 | | Clear all horizontal tabs. |
| | ESC ESC) | | | Clear selected horizontal tabs, must be followed by; "#,#,..." |
| | ESC A | | ESC 6 | Sets 6 lines per inch. |
| | ESC B | | ESC 8 | Sets 8 lines per inch. |
| | ESC CTRL → CTRL P | | ESC ESC CTRL K | Vertical tabs n lines. |
| | CTRL K | | | T.O.F. position. |

* The letters in all cases except this are in UPPER CASE.

Vic Rogers.

PRINTER CONTROL CHARACTER COMPARISON

Elsewhere in this issue is a chart that you may find valuable in converting software to drive your particular printer, or as a quick reference chart for the basic control characters.

This is not an exhaustive list covering every possible command for all printers, but a selection of commands that I believe will be the most useful.

I have tried many of these commands, however I have found that sometimes they seem to work differently in a different context, so you may have to experiment on your own in some cases.

If you find additional control characters that fit into this chart I would be happy to update my document and republish at a later date. This column and the chart were printed on my NEC PC-8023.

An example of one way of controlling your printer is taken from the 825 Printer Manual.

```
LPRINT "YOU TAKE";CHR$(10);"THE LOW ROAD";CHR$(27);CHR$(10);
"AND I'LL TAKE";CHR$(27);CHR$(10);"THE HIGH ROAD" return
```

The printer will recognise CHR\$(10) as an LF code (forward line feed) and CHR\$(27);CHR\$(10) as an ESC LF code (reverse line feed) and will print:

```

                                THE HIGH ROAD
YOU TAKE                        AND I'LL TAKE
                                THE LOW ROAD
```

The same effect can be created by actually keying in directly the equivalent characters:

```
CHR$(27);CHR$(10) = ESC ESC CTRL J
CHR$(10) = CTRL J
```

The graphics characters are easier to key in, but more difficult to interpret if you are reading them on the screen. Also, they don't print out in a listing unless you have a special program like BLISS.

HAPPY PRINTING FOLKS.

Vic Rogers.

BAY AREA ATARI USERS GROUP OFFICERS

| | | | |
|--------------|-------------------------------|------------|-----------------------------------|
| CHAIRPERSON: | OPEN | SECRETARY: | ROBERT KAWARATANI 415-856-3579 |
| SPEAKERS: | OPEN | PROGRAMS: | |
| EDITOR: | OPEN | DISKS: | OPEN |
| TREASURER: | VICTOR ROGERS 408-779-0185 | TAPES: | ROBERT HINDS 408-226-4513 |
| DOCUMENTS: | BOB LINDEMAN 408-984-2228 | SYSOP: | OPEN |

PROBLEM HOTLINE

| EVENING | CONTACT | PHONE NUMBER | SPECIALTY |
|-----------|---------------|--------------|--------------------|
| MONDAY | ROBIN ZIEGLER | 408-438-6879 | FORTH and ASSEMBLY |
| TUESDAY | CHRIS McAFEE | 408-258-8442 | HARDWARE |
| WEDNESDAY | JOHN CRANE | 408-268-7317 | BASIC and FORTH |

PLEASE, call only between 7 and 9 p.m.
(R.Ziegler 8 to 10 p.m.)

Note that a number of people have been dropped.
If you are desperate for help, other club officers can be reached for help.



"We need someone who'll go to the users' group meetings to break some pirates' knuckles."

GARY CHANG
2265 DEBORAH DR., #1
SANTA CLARA, CA 95050

100 OAK RIM WAY, #2
LOS GATOS, CA 95030

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OCTOBER 1982